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"MAKE AMERICA STRONG BY MAKING AMERICANS STRONGER"
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April Announcement

THE REGULAR APRIL MEETING of the California Academy of Sciences will be held in Room 214, Simson African Hall, on THURSDAY AFTERNOON, April 2, at 3:30 o'clock.

The speaker will be Professor Frank W. Weymouth of Stanford University, whose subject will be

THE LIFE HISTORY AND GROWTH OF PACIFIC CLAMS

DR. WEYMOUTH, who is Professor of Physiology and head of the Department of Physiology in Stanford University, has devoted much study to the general problems of the physiology of growth, and particularly to the life history and growth of various mollusks and crustaceans, including the Pismo clam, the Pacific cockle, the Pacific edible crab and the common edible shrimp. Probably few people think of these as having any other than a gastronomic interest for man; but Professor Weymouth thinks otherwise. In a paper published several years ago he pointed out interesting similarities and differences between the growth of man and the growth of a razor clam.

"Growth," says Professor Weymouth, "always an attractive study, has of recent years received the attention of several distinct types of workers who have amassed much data for man, for some domesticated animals of economic importance, for the ever-useful white rat and guinea pig, and for a very few invertebrates. Almost invariably the results have been presented as average weights or lengths at stated ages. Thus presented, the growth data of most animals agree in certain general features. There is an early period of rapid growth which gradually slackens with age. In some forms growth continues, though at a very reduced rate, throughout life; in others, notably in man and birds, growth completely ceases for a long period of adult life. This is followed by a period of declining size."

The public is cordially invited to hear Dr. Weymouth's lecture.

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PLEASE NOTE TIME AND PLACE OF MEETING

IT HAS BEEN found necessary to shift this meeting from Wednesday, when it would normally occur, to Thursday, as stated above. The meeting is again being held in the afternoon, as our last evening meeting, on February 18, was interrupted by a blackout.

VIGILANCE, VIGOR AND VITALITY

THE V-FOR-VICTORY design on the cover of this month's NEWS LETTER represents the designer's impression of an exhibit centering in the theme of "Nutrition for Wartime Needs" which is now under construction in the museum work-rooms, and which will be on display, in whole or in part, by the time this NEWS LETTER comes from the press.

Of the five words stemming from "V" only one calls for any explanation. "Viscera" was used because it fitted better into the design than its shorter and more expressive Anglo-Saxon counterpart, a four-letter word meaning what it takes to win a war. We shall not explain that the first four letters of the alphabet, singled out for a special type of treatment, carry the double connotation of referring to four well-known vitamins and to the American-British-Chinese-Dutch forces, as the reader is supposed to guess this for himself.

This exhibit, which is being prepared by Mr. Frank Tose and his capable assistants, is sponsored by the Northern California Public Health Association, which contributed two hundred dollars toward the cost of materials and labor. Grateful acknowledgment is also made of assistance given or material donated or loaned by the National Meat and Livestock Board, the California Dairy Council and its nutritionist, Miss Beatrice Carpenter, Mrs. Julia Lee Wright, director of the Safeway Homemakers' Bureau, and Dr. Nina Simmonds, lecturer in nutrition in the University of California schools of Medicine and Dentistry. The slogan

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was used recently by Dr. M. L. Wilson, director of nutrition in the Federal Security Agency. It seems particularly apt in the immediate situation, when it is essential that all of our energies be directed toward victory in the shortest possible time. We are all aware of the various stages of famine which are spreading through the occupied countries of Europe. Many of us recall the devastating results of food shortages in continental Europe during and after World War I, when the pitiful sight of starved and deformed children was all too familiar. Few Americans are aware, however, that forty per cent or even more of our own population today is suffering from a more or less inadequate and often seriously deficient diet.

A large proportion of these cases of dietary deficiency arises not from poverty but from ignorance—ignorance of the nutritional values of common types of food. The purpose of our National Nutrition Program, therefore, and of this joint effort of the Northern California Public Health Association and the California Academy of Sciences, is to acquaint Mr. and Mrs. Average American, especially the latter, with the nutritional properties of various kinds of food, so that the greatest value may be obtained most palatably and most economically.

FOOD CAN WIN OR LOSE A WAR

IT IS hardly possible for too much emphasis to be placed on the importance of nutrition in a wartime economy. Frederick the Great, who in his day was considered quite an authority on these matters, coined the well-known if not too elegant epigram, "An army, like a serpent, travels on its belly." This statement is often attributed to the first Napoleon, who doubtless knew and quoted it.

Today we need not worry about the diet of our soldiers. Gone are the days of beans and hard-tack. The Quartermaster's Corps of the United States Army is one of the most efficiently and scientifically organized nutritional services in the world. The average soldier is far better fed than his folks at home. It is not at all uncommon to find a boy who has gained twenty or thirty pounds since joining the army, notwithstanding vigorous physical exercise and the well-known early rising. Many of these lads are for the first time in their lives enjoying really normal health, with regular hours and adequate diet.

Most important at the present time is the diet of civilians, especially those who are working in war industries. A diet lacking in sufficient vegetables, fruits, milk, or whole grain may seriously hinder production through accidents due to nervousness, irritability, lack of coördination, poor vision or undue sensitivity to glare; through unconscious slow-downs due to lack of energy; and through loss of time by reason of increased susceptibility to colds and other infections.

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THREE GOLDEN RULES OF NUTRITION

THE FOLLOWING "Golden Rules of Nutrition" have been suggested by the Women's National Emergency Committee:

Golden Rule No. 1.—A sound foundation for buoyant health can be built with seven ordinary foods: MILK, MEATS, SEA FOOD, EGGS, GREEN VEGETABLES, FRUIT, AND BREAD, with adequate vitamins.

Golden Rule No. 2.—As far as you possibly can, see that you eat every day at least:

A PINT OF MILK so as to get some Vitamin A, some of the B vitamins, good proteins and plenty of calcium.

ENRICHED BREAD OR BISCUITS OR WHOLE WHEAT BREAD OR WHOLE GRAIN CEREALS—AND USE ENRICHED FLOUR so as to get B vitamins and minerals.

A TOMATO, AN ORANGE, A GRAPEFRUIT, or THEIR JUICES so as to get plenty of Vitamin C.

A BIG HELPING OF GREEN LEAFY VEGETABLES, OR SOMETIMES YELLOW ONES, RAW OR LIGHTLY COOKED so as to get some more Vitamin C, or more Vitamin A, and minerals.

EGGS or LEAN MEAT or SEA FOOD so as to get more proteins, several B vitamins, and iron.

AND FINALLY AN APPLE, A PEACH, A PEAR, OR OTHER FRUITS IN SEASON so as to get added minerals and vitamins.

Golden Rule No. 3.—Then, unless your doctor has you on a special diet, EAT ANYTHING ELSE YOU LIKE, including the necessary fats.

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VITAMINS, CALORIES, OR WHAT?

THE WELL-READ housewife, anxious to provide her family with a healthful diet, is likely to be puzzled by the shifts of emphasis in the instructions she receives. A few years ago she was counting the calories and wondering whether her menus provided sufficient phosphorus and iron. Today calories are seldom mentioned, and she hears of the above-named minerals chiefly in connection with incendiary and demolition bombs. She is faced instead with vitamins in bewildering array, with new ones popping up like dandelions in a lawn.

This does not mean that scientists are faddists (although it might be difficult to prove that they are not!). It is simply the result of a perfectly natural tendency to attach the greatest importance to the thing most recently discovered. To know that rats deprived of pantothenic acid get gray hair may not change the course of human history, but it makes good reading and suggests all sorts of interesting possibilities. Calories are still important, minerals are still important—but vitamins are news.

The body is made up of many chemical elements which need constant replacement if proper health is to be maintained. An adequate diet will contain: *protein* for building and repairing body tissues; *carbohydrates* and *fats* for heat and energy; *mineral elements,* including calcium and phosphorus for bones and teeth, iron for the red corpuscles of the blood, iodine, and various other minerals; *vitamins* for the regulation of body processes; and *water* for its function in circulation, assimilation, excretion, and other vital processes.

Szent-Györgyi, the brilliant and witty Hungarian scientist who isolated vitamin C, once defined a vitamin as "something that will make you sick if you don't eat it." This, it is true, could be said of any element essential to a balanced diet; but the epigram conveys the general idea. A vitamin is any substance essential to health which cannot be synthesized by the body itself from ordinary foods, and must be obtained directly in water-soluble or fat-soluble form from the diet.

Vitamin deficiencies can be corrected by the use of various vitamin concentrates, on the advice of a physician; but the *normal* way to obtain an adequate supply of vitamins is from *food.*

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ECONOMY IN BUYING

LEARN to know the economy meat cuts. Those in less demand will cost less than those that are popular. Grade is not a measure of nutritive value. The following cuts should be considered in the low cost budget: beef—rolled neck,

chuck, rib, arm pot-roast, blade roast, Boston cut; veal—boneless steer, shoulder chops, sirloin steak, sirloin roast; cured pork—picnic, boneless picnic, regular ham, half ham shank; fresh pork—butt, boneless Boston butt, blade steak, cushion shoulder; lamb—blade chops, arm chops, shoulder, rolled shoulder; sausage—veal loaf, veal sausage, minced ham, frankfurters, smoked liver sausage; specialties—beef tongue, beef liver, beef brains, beef heart, ox-tails, beef kidneys, tripe.

The internal organs of animals are rich in iron, and richer in vitamins than the muscle tissues. Recent studies indicate that lean pork is much higher in vitamin B_1 than are other meats. Liver is a good source of vitamin A and contributes some vitamin C.

Fish contains much the same nutritive properties as meat, and because of its short muscle fibers is easily masticated and digested. Sea-foods generally contain iodine, although this element is best obtained from regular use of iodized salt. Do not limit your use of fish to Friday. Buying on other days will make a more even market, thus reducing cost. Smooth, moist skin, firm flesh, fresh odor, full bright eyes, red gills and firm fins and tail are points to consider in choosing fish. A slice of raw fish should hold its shape and be well attached to the bone. Plan to use fish as soon as possible after purchasing. Do not hesitate to try new or unfamiliar fish. In wartime types of fish appear in the markets which have only marginal value in normal times. These, however edible or nutritious, are often neglected because they are unfamiliar. Try them.

Use both animal and vegetable proteins. Cereals, beans, peas, nuts and peanut butter have their place along with meat, fish, eggs, milk and cheese, and help to keep the budget in line.

Use fresh fruits and vegetables freely, buying them in season. Canned fruits and vegetables are wholesome and palatable, and may be substituted when the fresh product is unavailable. Modern canning methods conserve much of the original vitamin content.

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PROPER COOKING CONSERVES VITAMINS

MOST FOODS should be cooked quickly, and not over-cooked. Vitamin C in particular deteriorates with heating, and it and part of the B complex go into solution in the cooking water. Hence, cook with as little water as possible, and use the cooking water itself if at all palatable. Canned fruits and vegetables should be used as soon as possible after opening, as oxygen from the air may destroy part of their vitamin content.

Vitamins at a Glance

Name of Vitamin	*Some Important Sources*	*Some Results of Deficiency*
Vitamin A	Animal sources: fish-liver oils, liver, egg yolk, butter, cheese, cream. Plant sources: kale, spinach, dandelion and other “greens,” leafy vegetables generally; carrots and other yellow vegetables; tomatoes, apricots, prunes, yellow peaches.	Abnormal inability to see in dim light, slow recovery from glare, other eye difficulties; retarded growth.
Vitamin B Complex		
Thiamin (Vitamin B_1)	Animal sources: lean pork, chicken, kidney, liver, egg yolk, milk, lean mutton and beef, oysters. Plant sources: whole wheat and other whole grains, peas, beans, soybeans, nuts.	Retarded growth, nervousness, loss of appetite, slow heart rate, polyneuritis (beri-beri).
Riboflavin (Vitamin B_2)	Animal sources: liver, kidney, heart, lean meats, milk, eggs, fish. Plant sources: leafy vegetables, peas, beans, soybeans, whole wheat, peanuts.	Retarded growth, premature aging, certain skin and eye disorders.
Nicotinic Acid	Animal sources: liver, heart, milk, eggs, fish, chicken, lean pork and beef. Plant sources: green and leafy vegetables, tomatoes, whole wheat.	Skin eruptions, digestive disturbances, nervous and mental disorders, pellagra.
Pantothenic Acid	Animal sources: liver and kidney, other meats, milk. Plant sources: whole grains.	Poor growth, dermatitis; possibly related to graying of hair.
Vitamin C	Animal sources: milk, liver, brain. Plant sources: fruits, especially citrus fruits, berries, tomatoes, vegetables.	Sore and bleeding gums, tooth decay, scurvy.
Vitamin D	From animal sources only: fish liver oils, eggs, liver, vitamin D milk, sunshine.	Poor bone and tooth development, tooth decay, rickets.
Vitamin E	Animal sources: milk, eggs, meat. Plant sources: lettuce, watercress, wheat.	Retarded growth, sterility.
Vitamin K	Animal source: liver. Plant sources: soybean oil, cereals, leafy vegetables.	Hemorrhage; blood loses its ability to clot.

APPLICATIONS FOR MEMBERSHIP

NOTICE is hereby given to all Corporate Members that the Council at its meeting, March 20, 1942, approved the applications of Miss Lutie D. Goldstein and Dr. A. E. Michelbacher for MEMBERSHIP in the California Academy of Sciences. If no objection to the election of these applicants be received at the office of the Academy within two weeks after March 26, 1942, they will be considered elected.

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STUDENT MEMBERS MEET ON APRIL 10

ON FRIDAY EVENING, April 10, student members of the Academy will meet in Room 214, Simson African Hall, in Golden Gate Park, at 8:00 o'clock. Following a short business meeting, Mr. Leland Stallcup will show his excellent Kodachrome slides of the Sierras and of desert regions of the southwest.

SECTION 562 P.L.&R.